THE PASSPORT HOUSE LETTER

A Journal of Apple II Development • April, 1993

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Apple II developers need better coverage

VAPORWARE is the scourge of the computer world. It's frustrating to deal with products that appear to be there, that are advertised all over, yet never become available. On the other hand, no news is rarely good news, especially in the computer market.

It's a delicate balance: Apple Computer has often been chided for keeping a tight lip about their products until they are introduced. However, the result has been that Apple has kept clear of vaporware marketing. On the other hand, Atari developed a reputation of announcing scores of products that never seemed to get to market. Most people would choose Apple's style of business. By voting with their dollars, that majority has chosen Apple to become a financially successful company.

To Print, Or Not To Print

As journalists, we're faced with the dilemma of either withholding exciting news until it is absolutely certain to be true, or printing all of the gossip and hearsay we can scrounge up. The state of the Apple II world could falter from too much of either.

The widespread conception that the Apple II development community is dead comes, in part, from the fact that news of new product development for the Apple II is not publicized enough. Without a regular affirmation that work is being done, users want to know why nothing new is coming out. On the other hand, Apple II users are sick of hearing product introductions only to find out that they won't really become available for several months.

Both problems are a symptom of the slothful Apple II news media. If a developer tried to finish every product before publicizing it, he or she would likely run out of resources before the product gained enough attention to pay for itself. Remember that magazines like InCider/A+ require about a half year of lead time to print their news. How long could any business person stay in business if they were forced to wait that long before customers started coming in their door?

The Course Set for Developers

Instead, developers are forced by economics to publicize their work to the plastic paged media well in advance of product completion. By the time readers hear about the product, it should (hopefully) be done. This kind of market planning is difficult at best. It often result in the common announcemnt, "it should be complete and shipping in two weeks." In two weeks, the refrain is repeated.

The problem is that if, like most independent developers, you don't have gallons of money to throw at the situation, you are at the mercy of the unforeseen future. Developers must fit into the uncomfortable mold if they expect any results for their labor.

The next time you get frustrated with a developer's attempt to market his unfinished wares, why not either send enough money to cover expedient development of the package (several thousand dollars at least, ask the developer for a specific figure) or patiently wait for its release?

We've found ourselves in that situation. In this issue, for example, two reviews were pulled at last minute to accommodate developers not having the products ready. We scrambled to fill in the space with additional information and get this issue to press on time. By the skin of our teeth, we succeeded.

We're proud to be, not journalists of vaporware, but of real development. We will share news of rumors; they're important clues as to what can be expected in the future. However, our work centers on real development. And in coming issues, you'll witness our progress in attaining our goal of providing Apple II developers with a solid, reliable forum for getting their news out in a timely fashion—a development that would be good news indeed.

Don't miss a single issue!

Subscribe to the PHL today and get a monthly update on the Apple II. Details on page two. Sign up now for just $2 per month and get:

- The latest reports of new products and news
- In-depth product Test Drives
- A regular look into the work of real life Apple II developers
- Helpful hints on maximizing performance
- Special reports that keep you informed... and more!

QUESTIONS & COMMENTS

I just received The March issue of the Passport House Letter, and it is terrific. I understand a great deal more about modems than I did before.

I really like your publication: great mix of in-depth articles and newsy notes.

Marie Barry
via GEnie

I have just received you Vol 1, No. 2 issue. I am the editor of the NSDAUG Press, North San Diego Apple II Users Group. This edition has many interesting articles.

As editor, I would like to know if I could reproduce some of your articles from time to time. Full credit is always given to articles we get from other Apple Club newsletters.

William Walker
El Cajon, CA

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Other publishers may request the right to reproduce our work for a small fee. Of course, you can quote us anytime when you give us proper credit.

By the way, a note to readers who are involved in publishing a newsletter for their users group: we'd like to see your work, so please send us a copy! In addition, we're compiling a directory of national and foreign user groups, so if you're a member of an Apple II user group, please write us with details about your group.

Yes, this is the first time I've heard of your Letter. My 12 year old asked for a modem for his ROM 01 GS we purchased in 1988. Six months later, he is an Apple II SIG Librarian, I am a forum Op., we belong to a users group an I purchased a ROM 3 GS for myself!

When my sons asked for new stuff we couldn't locate any in the stores. I never knew "public domain," shareware and freeware existed. It seems funny that Apple has dropped the II and two publications begin publishing for the II. Thanks for your efforts. We really love our GS's, both of them.

Todd Legg
Edmonds, WA

Shareware and freeware are important sources of Apple II development, and we'll be continuing our coverage of new products available.

We encourage users to help support developers who choose to distribute their work in the form of "publicly available" software by paying any shareware dues the developer requests. It's an investment in future Apple II development.

It's great to see that many shareware products have gone on to become commercial programs.

We'd like to remind independant developers that, as "A Journal of Apple II Development," we're here to share news of their work. Write us with details and we'll include a mention for you in our "New Products" department.

Please find the enclosed check for $24 for a one year subscription to your newsletter. I know you will be a success and will be looking forward to the "Passport House Letter" each month for many months to come.

Ronald Armstrong
Waterford, MI

Thanks for the vote of confidence! We plan to be around for a long time as well. Your support helps to ensure that we will be here to assist Apple II users in the future.

Please sign me up for a one year subscription to The Passport House Letter. Thank you, and keeep up the good work!

Ross Holmberg
Vesta, MN

THE PASSPORT HOUSE LETTER

A Journal of Apple II Development • April, 1993

THE PASSPORT HOUSE LETTER

Each month, The Letter reports on new development, examines available products, interviews industry people and shares productive ideas. Passport House publishes The Letter on Apple II computer equipment for the benefit and enjoyment of an international readership. This publication is protected by copyright and may not be reproduced in any way without the express permission of Passport House.

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OUR OPINION

Redefining our Job as Journalists

RECENTLY, a man from Florida wrote us expressing a sincere viewpoint. We thought our readers would be interested in hearing some of the comments he makes in his letter, and we'd like to express our own opinion on some of the issues he raises.

We've edited some of the letter for space reasons, but we haven't distorted his ideas or opinions. Any edits we have made are noted by brackets [ ]; everything else appears as it was written.

The Letter

"Dear Sirs: I think that the glamour of the Apple II has come... and soon will be gone.

[...]Whom are you kidding when you impudently and recklessly proclaim 'If you want a new model of your computer coming out every year, buy a Macintosh. If you want the kind of support Sears or Wards provides, buy a Performa. But if you want a trustworthy system that gets the job done, with unlimited expansion possibilities to meet your needs in the 90's, stick with the Apple II [?']

When I own[ed] an Apple IIc in 1986-1987 I was continually having problems with the storage and media mess so prevalent in the Apple II series of computers. As for your opinion that the Apple IIGS is a really great and fast machine...it has it's supporters... and it's dissenters. It seems that every time I wanted to upgrade my supposed fast and superior system with various peripherals, I ended up reading or hearing reports from journalists, technical reviews and people I would consider highly persons in the computer industry, that the addition storage and system increasing equipment out there for the Apple II was more of a laughable after-thought by low end users who wanted to be like their hard-disk-equipped counter-parts in the world of IBM.

[...]Do your readers a favor by having them learn what a great computer can do (like a Mac or IBM system running Microsoft Windows), before you profess that an Apple II or IIGS can be the computer for the 90's.

[...]I use a Macintosh and IBM to suit my varying needs for database, spreadsheet, word processing and high-end communications needs, but could run Apple II and IBM programs, via shoftware, should the need arise.

Thank you for your time and interest. Sincerely, Donald B. "

And Now: Some Idea Exchange

We don't expect everyone to agree with our following comments—after all, they're merely our opinions—but we would like to answer some of the issues raised in the letter.

First of all, let us clarify that we have never stated that the Apple II is a speedy machine nor a "superior system." There is no way to make a comparison between today's generations of IBM and Mac and the pre-1987 Apple II's. That's just silly. We have never tried to position the Apple II as a state of the art system ready to take on an entirely different level of computers.

We did not "profess" that Apple II is "the computer of the 90's," but rather were highlighting its practical usefulness and room for expansion, two qualities that will make it useful on into the future.

We stand behind everything we have printed. The Apple II has proven itself to be a real workhorse for thousands of people. It is indeed "a trustworthy system that gets the job done, with unlimited expansion possibilities" for the future. We would not recommend an Apple II for use as a file server in a Fortune 500 art department. At the same time however, lots of people with little or no technical know-how are performing useful work with their Apple II's, whether with their business, in education or simply in leisure. Hey, it's a tool, not a glamour glob. And just because you can't find one at Sears doesn't mean it's not an effective and useful tool.

It would hardly be in our readers' best interests for us to recommend they throw out everything they know in favor of a different computer system. As is the case with anything, the Apple II has limits. But the computers mentioned in the letter have limits as well. No Macintosh, for example, offers general purpose expansion at a cost similar to that of an Apple II. And in no way would suggesting to our readers that they buy into Windows be doing them "a favor".

> We'll help our readers get the most out of their Apple II —not encourage them to dump everything they know for the latest thing.

Our Position at Passport House

From his letter, it appears that D.B. has experienced some frustrating problems—and suffered from some bad journalism. As with any sophisticated tool, making practical use of the Apple II requires some help and knowledgeable assistance. That's what we're working to provide our readers with: the information they need to make good use of their system.

We won't portray the II as the El Supremo computer system. But we do stand by it as a workable solution for thousands of our readers. And we will help our readers get more and more out of their investment, not encourage them to dump everything they know for the latest and greatest.

Specifically, we will continue an examination of various storage media and how Apple II users can make use of them; keep up an accurate report of international Apple II development; assist readers in understanding important buying considerations by clearing up technical details and exposing the marketeering hype; inform our readers by sharing the plans of today's developers and explore new topics suggested by our readership.

Our work not the most important thing going on in the planet, but we consider our role as important to many people. We want to be viewed as a trusted source of non-biased, accurate information. We encourage our readers to write us with their opinions and viewpoints, as well as any news or development they'd like to share. And, of course, when we make a mistake, write us so that we can correct it.

We believe that there's a future for Apple II users. The aim of our publication—our job—is to prove it each month.

MAXIMUM OVERDRIVE

Using Apple II Monitors

APPLE paired a matching monitor with almost every computer they sold, so many Apple II buyers bought Apple's monitor when they got their Apple II. However, while Apple's monitors are generally of good quality, there can be good reason to shop around for monitors with more features at a better price. If your current monitor ever dies, an Apple replacement may well not be your best option. We'll take a look at various types of third party monitors Apple II's can support and some of the features they offer.

Composite Monitors and Televisions

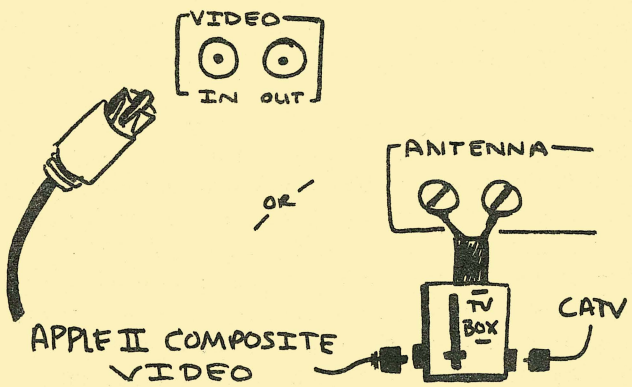
Apple II's first used the humble television as a display. TVs are cheap, they let you watch the news when you're not computing and are widely available. Unfortunately, while TV boasts a high resolution screen and can display a wide range of color, they're not the top pick in computer displays.

The TV was designed from the ground up to display bright, moving images. Computers, on the other hand, generally need to display sharp, clearly defined, static images. So while TV is great for depicting the action of a football game, it falls short when trying to display sharp characters for a word processor.

While you'll want a quality monitor to do serious work—especially anything using text—being able to simply hook up a TV as a secondary display deserves some attention.

All Apple II's produce NTSC composite video output (which standard TVs and VCRs can use) although the quality of their output is not extraordinary. Adding Apple's Video Overlay Card to your IIe or IIGS system will help, as it produces considerably improved composite video output.

"Composite video" refers to the fact that the entire video signal is sent on one wire. A standard II's composite video



RCA jack produces NTSC video (North American Televison Standards Committee) that all TVs in the United States, Canada and Japan can accept.

Unlike CATV cable or TV antenna signals, composite video is not decoded or tuned (set to a certain channel). Check the TV you want to use for direct video inputs. If it doesn't have these, you'll need a simple signal modulator (video game switch box) to accept this input as an antenna input signal.

Most VCRs will also accept direct composite video input, making it easy to tape presentations, make video letters to grandparents and record video game progress. RCA type cables are easy to find, so it's cheap and easy to start experimenting with recording and displaying Apple II images.

Monitors for Work

Composite monitors are like TVs without a tuner. You can't use them to watch TV (without an external tuner), but they usually offer a better screen quality. A good composite monitor can display easily readable 80 column text, a feat regular TV can't accomplish. Most color composite monitors though, like TVs, can't produce a very sharp text display.

For any kind of graphics work, you'll want to look at Apple's AppleColor display. This monitor, for the IIe and IIc, is well built and has a decent color screen; in addition, it is now often available refurbished at pretty good prices.

While the monitor isn't the most exciting part of the system, it is important. Using a quality display can make your work more enjoyable —and help reduce eye strain and headaches.

Red Green Blue

RGB monitors are a better choice for a quality display. They provide a much crisper display and more accurate color than both standard TVs and composite monitors because the signal is separated into different signals for the three primary colors: red, green and blue.

The Apple IIe first allowed use of digital RGB monitors via a special card in the aux expansion slot. Older IBM monitors are also digital RGB. Unfortunately, digital RGB monitors limit the display to just eight or sixteen colors. This is because each color has to have a digital number assignment. Digital RGB monitors designed to work with a larger numbers of colors would not be affordable.

Today's RGB monitors are analog. Analog RGB monitors can, like regular analog TVs, paint a much broader rainbow of colors, usually with gradations of colors into the millions. The computer defines colors in analog by producing an electrical analog wave—rather than computing a binary digital value—to represent the color.

The IIGS uses an analog RGB monitor (it won't work with digital ones at all). The Apple IIe, on the other hand, has an option of using either type of RGB monitor. ColorLink, a special interface designed by Applied Engineering to fit on their RamWorks III memory expansion card, allows use of both IIGS-style analog and the older IBM-type digital RGB monitors.

Special Monitors and Features

Some monitor models are available that allow a variety of signal inputs. One popular display made by Magnavox accepts analog RGB from the IIGS, as well as digital RGB, and doubles as a TV.

Using cheap VGA monitors are out, because no Apple II generates output video to the specifications of VGA monitors.

However, multiscan monitors, which are designed to work with a variety of computers by scanning the input frequency of the signal and adjusting to it, are analog RGB monitors that can work with the IIGS. We havn't paired multiscans with the IIGS, but some users have reported good results.

Multiscan monitors have built in extras to cover a range of input frequencies, so they cost more—a lot more. While they would be an expensive choice for most users, Apple IIGS users that also use a color Mac or VGA IBM system might want to consider getting a multiscan monitor that would work with both systems and share the high quality display between them.

Many of these monitors offer special features, such as convenient up front controls, a very flat screen to minimize distortion and high refresh rates to limit flicker. Many also offer compliance with MPR-II standards, meaning lower radiation emissions.

If you're interested in this type of monitor, look out for the following points: according to Apple's specifications, the standard IIGS video hardware scans horizontally at 15.734 kHz (at 60 Hz vertical), so the multiscan you chose should include that in its range; check the "dot pitch," the figure given that describes the monitor's sharpness. The standard IIGS monitor rates at .37 mm—smaller numbers are sharper, larger numbers indicate a poorer display.

Of course, the best way to get a good buy on a monitor without unwanted surprises is to test it out first. Before you look at specific monitors, find a comparision guide of multiscan monitors and check out some of the details.

The Bottom Line

Computer monitors aren't the most exciting part of the system, but are important. A fuzzy monitor can result in eye fatigue and headaches.

Using a quality display can make your work easier and more enjoyable. And knowing your options will help you to make a good buying decision.

Special Test Drive

An Unexplored Alternative to Overhead Projection Devices

By Phil Shapiro

A common dilemma at user group meetings and other computer presentations is finding a way to display a standard 12 inch screen to a hoard of twenty, thirty, or more people. With smaller meetings, people can huddle in a semi-circle around one monitor. But larger meetings require more creative solutions.

One common solution is to use an overhead projection device. Various companies make these devices, which sell in the range of $650 to $1100. If you don't own an overhead projector, you may need to factor in the price of the overhead projector into your purchase decision.

The problem with overhead projection devices is that they don't produce an image with much contrast. Even the color projection devices project an image that appears washed-out, faded, without crisp detail. Eighty-column text is entirely unreadable, even for those sitting in the front row of the room. Gazing at such a projected image for more than a few minutes can cause annoying eyestrain.

One unexplored solution is to use a large-sized television with analog RGB input. These sell for about $700—not much more than the overhead projection devices. Panasonic makes such a monitor/television that displays Apple IIGS output quite crisply. Since the image is projected directly, you're still able to see the sharp blacks, whites, and hues that you've come to expect when looking at a IIGS screen.

At a recent user group meeting of the Washington Apple Pi club, HyperStudio was shown on a 27 inch Panasonic monitor. The screen was so crisp that you could read small 80-column text from about ten or fifteen feet away. The vivid IIGS colors could be appreciated in all their glory.

For those who might be interested, the monitor we used is Panasonic model number CTH-2690R, a 27 inch television with an optional "RGB panel box." I'm not sure how much the RGB panel box costs, but I imagine it must cost less than $150. To get further info, Panasonic's address is: Panasonic, One Panasonic Way, Secaucus, NJ, 07094. They can give you the name of a local dealer who can demo the unit for you, and give you a full price breakdown. (Panasonic also makes a 31 inch direct-view televion with an optional RGB panel box. This monitor might be worth looking into for those making a presentation to a larger audience.)

One of the drawbacks of using such a large monitor is that the monitor itself weighs quite a lot (i.e. over 50 pounds). Transporting this sort of monitor usually means mounting it on one of those larger sized rolling carts.

A truly ideal situation would have several of these monitors facing the audience at various locations in an auditorium. To run more than one analog RGB monitors off an Apple IIGS computer, you would need to get a video signal splitter/enhancer. Such devices are available for about $300 to $350.

A large-sized RGB televsion/monitor could serve as an excellent alternative to the use of an overhead projection device. So if you're in the market for a large screen television, consider shopping for one that could be hooked up directly to your Apple IIGS. Your eyes will be forever grateful to your pocketbook.

Phil Shapiro is the founder of Balloons Software and co-editor of the Apple II version of GEnieLamp, the GEnie online magazine.

WHEN the first Apple II's became available, there were no disk drives available, so they made use of gruelling slow cassette tape drives for storage. At its appearance, the Disk II became an instant necessity. Being able to store and retrieve useful amounts of information quickly made the machine a competent tool.

Of course, the storage provided by a 5.25" Disk II isn't enough to cut it today. With larger files, and more of them, big drives are becoming less of a luxury and more of a necessity. We've prepared a series of articles in which we'll be examining disk drives, from the most humble floppy to high-end recordable optical drives.

Articles in this series are designed to complement each other. In each issue, we'll build another level on the discussion. The series isn't designed to be a technical reference, but a guide in understanding storage media devices and a demonstration of how users can make the most effective use of the drives they have, as well as make informed decisions on the advantages and disadvantages of buying into any type of disk storage system. So jump aboard and hang on in...

The Great Disk Drive

Part 1: The Device Level

On the device level, we'll look at the advantages and drawbacks of various drive types and examine the technology behind them. Future articles will take a look at how Apple II users can make use of the variety of drives, first at an interface level—getting the computer to simply recognize them—and then on more practical levels, like using the power of GS/OS's File System Translators to access foreign data and utilize the CD-ROM format. We'll also look into practical methods to use in storing information in a useful and organized way.

Standard Floppies

Magnetic floppy disks offer easy and convenient storage. From the first 5.25" 140K to the standard 3.5" drive, the common principle of floppies is the same: cheap, portable storage. Inside a floppy's protective sleeve is a thin disk of flexible plastic, coated with metallic oxide. While the disk itself is a little more substantial, it's coating is the same as that found on ordinary cassette tape. And recording is likewise identical. An electromagnetic head writes data to the spinning disk by leaving a magnetic pattern in the molecules of the oxide coating. The pattern can be read back later, by the same drive or another. While the process is nothing special, it provides a basic function to computers that makes them very useful: the ability to store a large quantity of information in very little space.

Of course, we'd rather take all this for granted. We desire space and speed, and by today's standards, floppies offer little of either. The best we've got are 3.5" drives. They provide a reasonable amount a space for the convenience and size they offer, and sport a protective shell (which, despite popular opinion, does not make them hard drives. Fillet one open and witness the appearance of a floppy interior.)

If you are using a IIGS, you'll want to examine the formatting interleave of your 3.5" floppies. Interleave is the skipping pattern the drive uses to read adjacent blocks of data. When using the Unidisk 3.5" drive, or when using 8-bit Apple II's, the best performance comes from 4:1 interleave; with a Apple 3.5" drive, GS/OS can achieve faster performance using a 2:1 interleave. When you format a disk from GS/OS, it ask you to choose which interleave to use. As the disk is formatted, the chosen interleave is applied: blocks are "addressed" either every-other-one (with 2:1) or every fourth block (4:1). Interleaving is a basic principle designed to match the speed at which the drive reads data and the speed the computer can accept it. Using the wrong interleave slows you down. Choose the format appropriate for the use of the disk; if you're making a disk for a IIe user for example, using a standard 2:1 interleave, while still being usable, will operate slower than necessary.

When working with any removable media drive, it's important to keep the thing clean. Although a speck of dust may not cause immediate damage to a disk, it can eventually cause errors and destroy valuable data. And Murphy's Law would dictate that the problem shows up when it would cause the most damage. So protect yourself—don't leave disks laying all over your desk, store them in a covered box.

If you verify a floppy disk and find bad blocks, any bad blocks, copy everything off it and throw it away. Saving the seventy five-cents a new disk costs is not worth the aggravation of loosing data, whether it is an important database or simply a picture your daughter was working on. "Bad blocks" are areas on the disk that are not recording properly. When dealing with cheap floppies, it makes sense to get rid of the disk. If you're getting reports of bad blocks frequently, it could be that you've either worn out the disk or that the drive is dirty. Invest in a drive cleaning system and using it regularly—especially if you are doing all of your work with floppies.

Hard Disk Drives

Hard disks actually predate floppies. They work similarly but use a rigid platter as the basis for their magnetic disk. Hard drives not only offer more storage, but work much, much faster. Five or ten megabyte hard drives were considered fair-sized several years ago, but today's standard is closer to 80 megabytes. If your shopping for a hard drive, get the biggest you can comfortably afford. With the falling prices of hard drives, it doesn't make sense to go hog wild and get enough to space to satisfy your needs for the next five years. Buy what you immediately need and can use in the next couple years and upgrade later.

Small Systems Computer Interface, or SCSI, is the Apple standard for interfacing hard drives and related devices. It

allows eight devices to be chained together from one port and delivers high speed data transfers. In most cases, you'll want to get a SCSI drive. Most internal hard drives for the Apple II are proprietary, usually IDE, and require a proprietary card. If you decide to add another hard drives or other large capacity drive later, you'll need to buy a SCSI interface anyway.

Like floppies, hard disks will report bad blocks. In fact, their large surface area makes manufacturing flaws that result in bad blocks (disk blocks that are unrecordable) a fact of hard disk life. On hard disks, bad blocks are marked during formatting so that the operating system will not try to use them.

Because hard disk mechanisms are sealed, dirt isn't as big of a problem; however, take care to protect your hard disk from preventable vibration and power failures, especially while in operation. One hard disk we have been using had a faulty power connector that simply fell out occasionally. Power losses to the drive on several occasions didn't cause any problems (except for the anticipate stress associated with finding out if anything went wrong) but when dealing with hard disks, always keep in mind that they're fragile machines. Check their cables to make sure they are tight and be careful when transporting a drive to keep it from being bounced aroundexcessively.

The enormous space available from hard drives when compared to floppies presents a new problem as well; if the disk goes bad, you loose a tremendous amount of data. This obligates you to back your data up on a regular basis. If you try to use floppy disks for backup, the number of disks and amount of time you'll go through will likely keep you from doing backups as often as needed. If you can afford one, consider investing in a...

Tape Drives

...tape drive for backing up your data. If you already have a SCSI hard drive, a SCSI tape drive won't require another interface card. It will, however, make up back ups dramatically faster and simpler. Tape drives come in formats from 60 MB to 5 Gigabytes (5000 MB). Apple II models are available from Tulin Technology from $519 for a 155 MB drive to $879 for 500 MB. Sun Remarketing recently offered a tape drive at a remarkable price ($150), so you might want to keep an eye on them for future good deals.

Removable Cartridge Drives

The Iomega Bernoulli 90 MB cartridge drive and SyQuest's 44 and 88 MB cartridge drives both operate like hard disks with removable platters. You could use them to back up your fixed hard drive, but their fast speed makes them useful even as a hard disk replacement. Pop in an empty cartridge and you have that much more storage available. Tulin offers 44 and 88 MB SyQuest drives for $499 and $599. Extra cartridges for the drives are $65 and $99. These drives also fit in as part of the SCSI chain.

Floptical Drives

Somewhere between the floppy drives and hard disks come Floptical drives, which offer the convenience of a 3.5" disk with the storage of a small hard drive. While the InSite Floptical mechanism (used in both the Applied Engineering and Tulin Floptical drives) can read and write to both regular and high density floppies, it can also use special disks with an optical hub that allows precise optical tracking (like a CD uses) of the drive's magnetic read write heads. This results in tighter track placement, allowing 21 MB of storage per disk. Flopticals are also SCSI devices.

Flopticals do suffer from a couple of flaws: they aren't nearly as fast as hard drives; their speed is around three times that of an ordinary slow floppy, so don't think of them as a small SyQuest. In addition, like both hard drives and floppy drives, and unlike optical formats like CD, they're magnetic and thus can be easily damaged if exposed to a magnetic field. Flopticals may be a good choice for floppy drive replacement, however. They are similarly priced (Tulin's Floptical is $369), and with 21MB storage capacity, make a good choice for hard disk backups.

Optical storage

Perhaps the most exciting technology in disk storage is CD-ROM. Actually, CD-ROM isn't new; in fact, it actually predates the IIGS. What is new is the increased availability and more attractive price CD-ROM currently offers. According to a recent article in BYTE magazine, CD-ROM titles have jumped from around a hundred in 1986 to over five thousand just last year. That kind of increase brings prices down.

One of the best things about CD-ROM is an independence, of sorts, of the file system. All CD-ROMs are supposed to use the ISO 9660 file system, which means that the Apple IIGS can theoretically can read any disk available. We'll focus more that in a coming article.

Being "Read Only Memory," however, they have an obvious limitation in usefulness. Most Apple II users who make use of CD-ROM are developers, as Apple provides updates and information to them on CD-ROM. Besides being libraries of reference works, new areas of CD-ROM usefulness are emerging. Photo CD, with a major push from Kodak, is emerging as a standard for storing high resolution images on CD, and offers computer users another reason to buy into CD-ROM.

Unfortunately, that's where the complications start. The Photo CD standard requires CD-ROM XA (eXtended Architecture) extensions. The XA specification is a standard involving sound and animation capabilities. If you're accessing text and pictures, you won't need the XA extensions, but using Photo CD (which is not currently supported on for the Apple II, anyway) does require a drive to be "XA-ready," if not fully compliant.

Another tangle involving the new Photo CD is the concept of "multisession" compatibility. One of the big marketing features of Photo CD is the ability (of the photoshop that produces the Photo CD from your prints) to add more pictures later to the same disk. Unlike a rewriteable disk drive, CDs can't be erased and rewritten. The new information is added and a new directory of files is produced. The resulting bugaboo is that multisession isn't supported on all drives. A single session drive would only be able to recognize the first directory that lists only the original set of pictures.

Without any current support for formats like Photo CD, Apple II users have little need for XA or multisession support. One option that is worth considering in CD-ROM is dual-speed access. The basic "Red Book" standard for audio CD specifies that the read mechanism supplies data at 150 Kilobits per second. That's fast enough when dealing with stereo sound, but access of large data files and applications stored on CD-ROM at that speed may well drive you crazy. Dual speed drives can step up the disc's rotation to achieve double the speed. Make no mistake, even twice as fast, CD-ROM is still fairly slow—you'll want to move application you

regularly use to your hard drive—but the improvement is welcome. NEC calls their dual speed drives "MultiSpin."

Don't be mislead by offers for bargain CD-ROM drives. Likely, they are the old ultra-slow variety. It's fine to save the money by getting one, but remember that their speed difference is the reason for the low price. CD-ROM drives by NEC are available at good prices and a IIGS driver exists for the drives. The portable-yet-slow model CDR-37 can be found for around $425 and a MultiSpin CDR-74 for $620. As you may have guessed, CD-ROM drives also plug into the SCSI chain.

Recordable Optical Disk Drives

Recordable optical media seems like the ideal computer storage system; it offers high density storage in a nearly indestructible format that can't be damaged by magnetic fields. Why did it take so long to get here? First of all, remember that the original CD standard is based on mechanically pressing a physical pattern of pits into a reflective media that is encased in plastic and read with light. The obvious problem is that you can't press new pits into a disk after it is cast in plastic. The new recordable drives use WORM (write once, read many) and MO (magneto-optical) methods of writing to optic disks.

WORM is primarily used in large scale archival work, where a permanent record is desired. WORM disks use high powered lasers to burn pits into a special disk. The information written to a WORM disk is permanently scarred into the disk, so it can not be rewritten.

MO drives are gaining in popularity. They make use of a magnet and a dual power laser. MO's make, not a series of pits, as CD or WORM, but a pattern of magnetic spots of differing orientation. Before using a disk, the drive must send it through an erasure cycle, so that all of the "spots" have the same magnetic pattern: "1". Then, it can write data to blocks by selectively zapping spots with the high power of the laser. The spot is heated to somewhere above 350° F, where the spot looses its magnetic orientation and enters a state of flux. The magnet can then pull the spot orientation from a "1" to a "0" before the spot cools and freezes into a magnetically locked state. The nondestructive process allows for rewriting of the disk later.

The disk can't be read with a magnetic head; the spots are just too small. Through a phenomenon known as the Kerr effect, the drive reads the magnetic orientation of the recorded spots with the laser on low power. Want a MO drive for your Apple II? Tulin offers IIGS users a 120MB format MO drive for $1099 or a 1000MB (1 Gigibyte) version for $3099. Additional rewriteable disks are $49 and $235 (would you care for a box of ten?) You'll be hooking your new MO up along with your other SCSI devices.

On The Level

Whew! Hopefully, that was interesting enough to follow. As we examine the details of accessing data from these various types of disk systems, some of the information we here present will make more sense. The big question now is how to get the drives to work with your Apple II. Look for "The Great Disk Drive, Part 2: The Interface Level" in our next issue.

Companies Mentioned in this Article

Tulin Technology
2156H O'Toole Ave.
San Jose, CA 95131
(408)432-9057

Sun Remarketing, Inc.
Box 4059
Logan, UT 84321
(800)821-3221

We thought this would get your attention

A Free Offer...

Place your order for the 1993 edition of "Apple II Software: Opportunities for Apple II Users." The guide is available from Apple Computer free of charge by calling Apple's Customer Assistance at 1 (800) 776-2333 between 6:00 am and 5:00 pm (PST).

Apple will be gauging interest in the Apple II from the number of requests they get for the publication. Call today.

THE PASSPORT HOUSE LETTER

A Journal of Apple II Development

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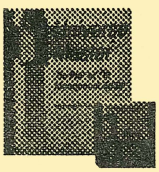

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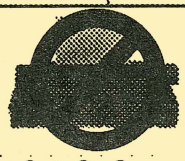
No hard drive owner should be without it! Universe Master provides a wide variety of essential disk management functions not provided by the Finder™... functions you can't live without such as incremental file backup, volume image backup, media integrity scan, file system validate & repair, file un-deletion, and volume optimization. All this wrapped in a System 6.0 savvy, desktop interface that starts where the others leave off!

Universe Master Hard Drive Management v1.1 ... $99.95

Stop Wasting Paper!



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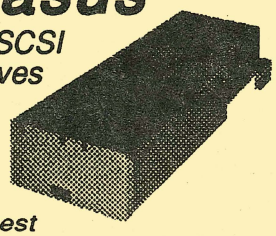
PaperFree™ is an on-screen printer which captures print-outs before they are sent to your printer. You can view your documents using PaperFree's Preview editor, which shows exactly how they would look on paper. You can zoom in/out, view two pages at once, tile pages, and save the document for later viewing or printing. Capture and display a 30 page document in mere seconds vs. 30 minutes (or more) with an ImageWriter!

PaperFree™ (Environmentally Friendly Printer) ... $39.95

Available Early April, 1993

Pegasus

Internal SCSI Hard Drives



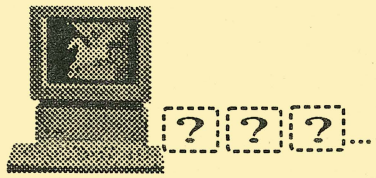
The Highest Performance, Most Affordable Internal Drive Available!

Say goodbye to clumsy cables, noisy fans, ugly cases and wasted desk space! The Pegasus hard drive offers a sleek internal design, 80 watt power supply, and an integrated cooling fan. Each Pegasus (except kit) includes Universe Master software.

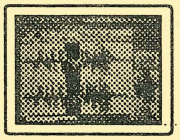
Pegasus 0i	$179.00
Pegasus 0i w/Fan	$199.00
Pegasus 42i (42 mb)	$419.00
Pegasus 85i (85 mb)	$479.00
Pegasus 127i (127 mb)	$559.00
Pegasus 170i (170 mb)	$599.00
Pegasus 240i (240 mb)	$799.00
Pegasus 525i (525 mb)	$1399.00

Coming Soon...

A complete line of external storage solutions including fixed and removable hard drives, CD-ROMS, tape backup units and more!



Awesome Waves!

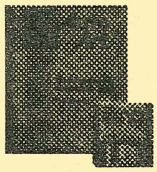


True Waveform Editing and Effects Processing for the Ultimate Sound!

DigitalSession™, the last word in waveform editing software brings sound recording on the IIgs to new heights! The only program available that offers true editing of waveform data, in stereo, works with all standard sound digitizing hardware. Includes format translators, extensible filters and special effects including: echo, amplify, mute, frequency-shift, blend, fade, clip removal and many more!

DigitalSession™ - Premier Waveform Editor ... $49.95

The Big Squeeze!



Organize Your Data And Reclaim Lost Disk Space

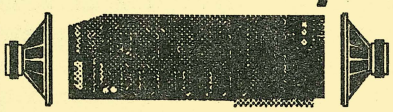
AutoArk™ is the integrated file compression utility that allows you to store files in compressed format and access them directly within your GSOS applications. Reclaim an average 50% of used disk space with most file types. Provides direct access to Universe Master backups!

New version 1.1! Features background compression, expanded re-compression options and file splitting capability.

AutoArk™ Integrated File Compression ... $39.95

Version 1.1 Available Late March, 1993

Crank It Up!



SoundMeister & SoundMeister Pro...

Stereo Digitizers/Amplifiers for the Apple IIgs!

Bring sound back to the IIgs! The SoundMeister card lets you play sounds in full stereo with brilliant highs and vibrant lows! Compatible with virtually all software that plays sounds! Use the digitizing capabilities to record sounds and add them to your favorite applications such as Sonics, Hypercard, Hyperstudio and the Sounds control panel. Includes DigitalSession™ software.

SoundMeister ... $89.95 SoundMeister Pro ... $139.95

? More Great Products...

We at ECON are continuosly working on great new products for the Apple IIgs. In fact, during the course of 1993 we will be adding no less than 12 new hardware and software products to our product line. But we want to do more! The IIgs has a potential that has just barely been scratched. If you are working on a great new software product, or have a great idea for one, let us know. We are anxious to bring as much great software to the IIgs as possible!

Apple II Enhancements From:

ECON TECHNOLOGIES

99 North Central Avenue - Suite B
Oviedo, Florida 32765
(407) 365-4209
Mon-Fri, 10:00 AM - 6 PM EST
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NEW PRODUCTS

Mazer II
Big Red Computer Club
423 Norfolk Avenue
Norfolk, NE 68701-5234
(402)379-4680

Big Red announced obtaining "exclusive marketing rights" to Mazer II, an IIGS arcade style game written by Mike Howard of Farfetched Software. Big Red describes the new game as a cross between fantasy adventure and flight simulator, "a world of continuous movement with real-time point-of-view graphics for arcade action plus adventure." Mazer II requires 1.25 MB RAM and System 5 or higher. Retail price is $25.

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Symbolix 1.8
Bright Software
P.O. Box 18
4153 Reinach 2
SWITZERLAND

An interim release update to Symbolix (formerly GSymbolix) is now available on request.

The new 1.8 provides support for multitasking under The Manager as well as support for the now discontinued Floating Point Engine (a 68881 math coprocessor board), plus a rewritten modeless-dialog, disk-based help system and an improved 2D module.

Under The Manager, time consuming symbolic and graphic commands can be interrupted. This allows Symbolix to continue its processing of the operation in the background while you switch between applications. Symbolix plays a sound sample when a background task is complete.

Since Symbolix uses only 3K of zero page space, it is a Manager-friendly application and compatible with most programs that run under The Manager.

Controls allow you to turn multitasking off (which accelerates its operation whether it is running under The Manager or not) or set the amount of processor time the program attempts to steal while operating in the background.

Support for Innovative Systems' Floating Point Engine helps speed up real functions 60%-90%.

Bright Software said that the Symbolix desktop has been redesigned by "a Symbolix user who works with this program almost daily. You'll notice that all windows are there where you need them!"

Symbolix 1.8 is an undocumented release, so the upgrade costs only $5.00, which includes postage (surface mail, registered). Registered users may get the new version by sending their original program disk with payment to Bright Software Switzerland. We recommend that you consider sending cash for payment, as foreign personal checks are next to worthless to developers in Europe. The new version is only available from Bright Software of Switzerland.

In a recent Bright Software news release, plans for a 2.0 release were announced. The company is planning to include the scientific notation typesetting capabilities of their separate program Formulate into Symbolix 2.0 and add support for a second math coprocessor board now under development. The release referred to an the unnamed coprocessor as "a special high performance CPU [with] a clock speed of 20 Mhz."

There were no clues as to the identity or location of the reported developer of the to-be-announced math coprocessor board.

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Twilight II
DigiSoft Innovations
PO Box 380
Trumbull, CT 06611
(203)375-0837

DigiSoft has announced a new version of their screen blanker for the IIGS. According to developer Jim Maricondo, Twilight II v1.1 is the most comprehensive, complex, and full-featured screen saver ever written for the IIGS.

The new T2 will blank programs under both GS/OS and ProDOS 8. It is packaged with thirty different effect modules (that play animations and sound effects during a screen blank). T2 is also compatable with all effects modules designed for the Phantasm screen blanker of Quality Computer's Signature GS package.

In addition, the new T2 is compatable with both SwitchIt! and The Manager and is AppleShare aware, so it works on networks.

Twilight II retails for $39.95. Registered owners of Twilight II 1.0 will receive v1.1 free. Digisoft is offering a competitive upgrade from Signature GS and Desktop Enhancer for $24 plus $1 for domestic postage. Upgrades from the original Twilight program are available for $20 plus $1 postage.

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Previous issues of this publication are available in limited quanity. Postage paid issues from February and March (as well as the March disk) may be requested for $5 each. Our address appears on page two.

LATE NEWS

System 6.0.1 Done?

·Big Red Computer Club's newsletter "Scarlett" attributed thieir report of a IIGS System 6.0.1 release in early April to "unofficial reports out of Cupertino."

The report stated System 6.0.1 is ready to ship now but is being withheld to coincide with the release of the Apple II Ethernet card, a high speed network interface. Besides the obvious support for the Ethernet interface, System 6.0.1 is suposed to fix some minor bugs.

Apple has also promised a System 6.1, some sources suggest a release late this year. Coming versions of the IIGS System Software are supposed to provide keyboard navigation within the Finder and improved drivers.

In addition, several sources have pointed to the release of an MS-DOS File System Translator, which would allow a transparent integration of the tangled file system of the IBM masses into GS/OS.

It has been suggested that the new FST will be first released as read-only (like the current Apple DOS 3.3 FST) and later upgraded to provide write capability.

A couple of interesting side points about FSTs:

1) Insiders have stated that the forthcoming MS-DOS FST is based in part on the structure of the current ProDOS FST.

2) Unlike device drivers (e.g. for printers and SCSI devices), which have a fairly stable, documented interface (that is, they should act independent of the system software version), FSTs have more complex roots that stretch throughout the fabric of the operating system's disk interface. Releasing a new FST requires reworking parts of the system software.

Apples from the U.K.

·Dr. Peter Stark, a subscriber in the United Kingdom, sent us information about The British IIGS Club, a nonprofit group of IIGS users.

The club's "aim is to link, interest and help Apple IIGS users, especially those in the U.K.," although Dr. Stark, the group's coordinator, said the club has a number of overseas members, and would be happy to have more.

The club produces a bimonthly disk magazine of reviews, music, utilities, new product information, shareware, company profiles and the like covering both 8 and 16-bit Apple II's.

Subscriptions for overseas members is £15 to cover the period of August 1992 to July 1993. Anyone signing up now would receive the six disks issued so far plus at least two more to be sent before the end of July. To join, send check or international money order made out to Ian Archibald in the amount of £15 to:

The British IIGS Club
22 High Street
Chesterton
Cambridge CB4 1NG
ENGLAND (U.K.)

Color for your Quickie?

·One of the comments made on the British IIGS Club's disk magazine was that Vitesse, Inc., manufacturer of the Quickie hand scanner, is considering the possibility of adding a color scan feature to existing users of their scanners. An upgrade kit would provide color functions without the need to buy an additional color scanner head, and is estimated to cost around $100. For more information, you can contact the scanner developer at:

Vitesse, Inc.
P.O. Box 929
La Puente, CA 91747-0929
(800)777-7344

II Alive is in the Mail

·Quality Computers' first edition of II Alive should be out very soon. Editor Jerry Kindall noted on February 3 that they were hoping to get the first issue into the mail by March 7, noting that their other publication, Enhance, took much longer than expected for their art department to put together. At that time Kindall stated that they already had most of the articles for II Alive ready, but that it would take at least two weeks to print and mail.

"Now I understand", Kindall commented, "why the information in other magazines often seems to be totally outdated."

Kindall announced definite shipment of the issue on March 9 and stated that subscribers should receive their issues before March 23. Unforeseen delays slowed the first issue down (the bane of the entire computer industry, no?) but Quality plans to get back on track and publish their second issue by March 27. Quality wants to receive submissions before March 20.

What to write? No editorials or Mac bashing, please, says Kindall, quipping, "We could REALLY use that Platinum Paint article for this issue, since we promised it for the first issue...if you're debating over what to write, that's a good place to start."

Subscribers will get the free II Alive video in late May, so it can include scenes from Apple Expo West.

ERAN PAIGE

Old Machines With a New Job

THERE are millions of Apple II's out there that aren't being used. They still work, but they've either outlived their owner's attention span or been replaced by a new model. Like the often joked about cockroaches and fruitcakes, these old machines may live on through time as the indestructible living dead.

Unlike a lot of old computers that turn up as relics of the past, old Apple II's are still useful. Remember the old Commodore PET's? Okay, we're talking early eighties here; this was the only personal computer system I recall that users could actually damage by typing in the wrong command. The honest truth—typing in the wrong POKE (memory write) command, as I remember, would burn the thing up. The question is, how useful would one of those be today? Or a how about the Radio Shack TRS-80, another contemporary of the first Apple II's? There is basically nowhere you turn to find help in working with one of those.

Yet development tools for even the first Apple II's are still readily available, as are many expansion peripherals. Surely no early II's would be the choice for the primary computer system of a large business, but the Apple II wasn't really designed for that. Apple II's are multipurpose machines; they can do just about any kind of boring task for you to make your life easier. What makes the II's unique is that their usefulness hasn't diminished. So what can you do with an old Apple II?

1001 Uses For a Old Apple II

I don't really have the space for a full thousand and one ideas, unless I resort to listing things like "1. Building Blocks, 2. Lunch boxes, 3. Elevator counterbalance weights.." So instead, I thought up a few practical ideas instead for putting the useful technology in an Apple II to use. Consider the following.

Automated Teller Machines cost banks many thousands of dollars. A humble Apple II could be rigged up to a magnetic bar scanner, old video monitor, a modem for account authorization, a small hard drive for record keeping, an uninterruptable power supply and a cash disimbursements mechanism for cheap ATM replacement (the AII TM?). Include a screen saver utility to prevent the common problem of phosphor burn in; replace that annoying beep with the Apple II bell—it's a little less aggravating. Bring that old Apple II out of the closet and save the Banks millions.

Or how about this: there's a lot of money in car customization—big stereos, car burglar alarms and other more exotic modifications. Pack away an Apple II motherboard under the dash and control everything with computer controls. How many cars have you seen with full size video displays integrated in the dash? (Please check local ordinances before you start work). Turn on your car and the Apple II inside starts up, checks engine sensors, activates the radio and turns on the headlights (if it's dark).

As you drive, it notes the miles you travel and meters the fuel you use, and enters them into an AppleWorks spreadsheet. Type in your destination (business or pleasure?) and it records for you an automobile log for your taxes. The floppy drive above the radio lets you share the data with your home system.

When you park it checks your lights (unless your preference is set to manual, of course) and rolls up the windows, locks the doors and sets the alarm. Whoops! Left your keys inside? No problem. Attach a keyboard to the input port next to the key lock and type in your security code. The doors unlock.

All right, this system is getting expensive, but it would win top prize in any car show. Pair up an Apple II programmer and car installation expert and have at it. How about the same level of automation for your home?

The X-10 system interface for home control already exists, but with a couple extra Apple II's installed throughout the house, the concept of home control surpasses just turning lights on and off and goes into the field of... automating lunch—dial up from work and choose a recipe from your own personal BBS; your kitchen's Apple II looks up the file in the recipe database, preheats the oven and cross-references your cupboard inventory database to see if you'll need to pick anything up on the way home. It also prints weekly grocery lists and counts calories for you (but only if you ask for it).

In other rooms of the house, a II monitors light usage in empty rooms and controls hot and cold water pressure to prevent shower scaldings when the toilet is flushed. A sprinkler system turns on only when there isn't any rain and smoke detectors automatically call the fire station and report the situation with a recorded message. At last—an intelligent dwelling place.

A Chance To Imagine

There's nothing dead about the Apple II; what makes a tool useful is being in use. As long as users out there are getting service from their trusted machine, there's no reason to consider scrapping it. How about more ideas? I've barely scratched the surface of uses for an old Apple II. How bizarre or practical of ideas can you think of for putting an old machine into use? Put your imagination to work and write me, Eran Paige, at our standard address on page two. Tell me what you'd do with an old II. Big prizes for winning ideas!

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